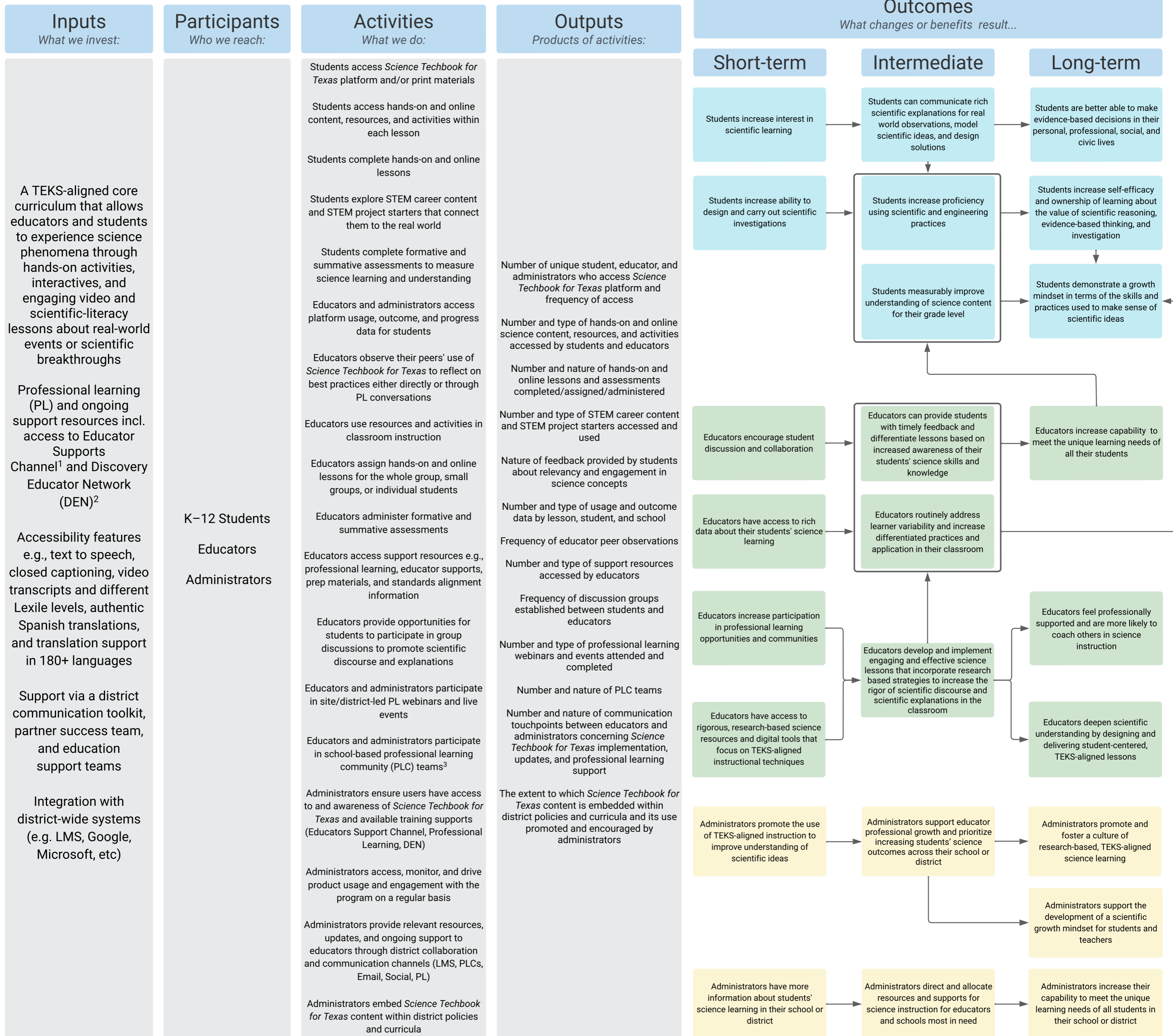**SCIENCE TECHBOOK** FOR TEXAS
D EDUCATION

Problem Statement: Students should be at the center of learning science, which is grounded in building conceptual understanding across an intentional progression of ideas and skills/processes. Science education that does not provide enough opportunities for hands-on, interactive exploration of scientific concepts and phenomena often fails to engage students and educators and is less likely to improve students' science outcomes. *Science Techbook for Texas* provides highly engaging, TEKS-aligned, hands-on, rigorous, and research-based lessons and activities, including rich teacher supports and formative/summative assessment opportunities to monitor student learning.

Inputs
What we invest:

A TEKS-aligned core curriculum that allows educators and students to experience science phenomena through hands-on activities, interactives, and engaging video and scientific-literacy lessons about real-world events or scientific breakthroughs

Professional learning (PL) and ongoing support resources incl. access to Educator Supports Channel[1] and Discovery Educator Network (DEN)[2]

Accessibility features e.g., text to speech, closed captioning, video transcripts and different Lexile levels, authentic Spanish translations, and translation support in 180+ languages

Support via a district communication toolkit, partner success team, and education support teams

Integration with district-wide systems (e.g. LMS, Google, Microsoft, etc)

Participants
Who we reach:

K–12 Students

Educators

Administrators

Activities
What we do:

Students access *Science Techbook for Texas* platform and/or print materials

Students access hands-on and online content, resources, and activities within each lesson

Students complete hands-on and online lessons

Students explore STEM career content and STEM project starters that connect them to the real world

Students complete formative and summative assessments to measure science learning and understanding

Educators and administrators access platform usage, outcome, and progress data for students

Educators observe their peers' use of *Science Techbook for Texas* to reflect on best practices either directly or through PL conversations

Educators use resources and activities in classroom instruction

Educators assign hands-on and online lessons for the whole group, small groups, or individual students

Educators administer formative and summative assessments

Educators access support resources e.g., professional learning, educator supports, prep materials, and standards alignment information

Educators provide opportunities for students to participate in group discussions to promote scientific discourse and explanations

Educators and administrators participate in site/district-led PL webinars and live events

Educators and administrators participate in school-based professional learning community (PLC) teams[3]

Administrators ensure users have access to and awareness of *Science Techbook for Texas* and available training supports (Educators Support Channel, Professional Learning, DEN)

Administrators access, monitor, and drive product usage and engagement with the program on a regular basis

Administrators provide relevant resources, updates, and ongoing support to educators through district collaboration and communication channels (LMS, PLCs, Email, Social, PL)

Administrators embed *Science Techbook for Texas* content within district policies and curricula

Outputs
Products of activities:

Number of unique student, educator, and administrators who access *Science Techbook for Texas* platform and frequency of access

Number and type of hands-on and online science content, resources, and activities accessed by students and educators

Number and nature of hands-on and online lessons and assessments completed/assigned/administered

Number and type of STEM career content and STEM project starters accessed and used

Nature of feedback provided by students about relevancy and engagement in science concepts

Number and type of usage and outcome data by lesson, student, and school

Frequency of educator peer observations

Number and type of support resources accessed by educators

Frequency of discussion groups established between students and educators

Number and type of professional learning webinars and events attended and completed

Number and nature of PLC teams

Number and nature of communication touchpoints between educators and administrators concerning *Science Techbook for Texas* implementation, updates, and professional learning support

The extent to which *Science Techbook for Texas* content is embedded within district policies and curricula and its use promoted and encouraged by administrators

Outcomes
What changes or benefits result...

Short-term

Students increase interest in scientific learning

Students increase ability to design and carry out scientific investigations

Educators encourage student discussion and collaboration

Educators have access to rich data about their students' science learning

Educators increase participation in professional learning opportunities and communities

Educators have access to rigorous, research-based science resources and digital tools that focus on TEKS-aligned instructional techniques

Administrators promote the use of TEKS-aligned instruction to improve understanding of scientific ideas

Administrators have more information about students' science learning in their school or district

Intermediate

Students can communicate rich scientific explanations for real world observations, model scientific ideas, and design solutions

Students increase proficiency using scientific and engineering practices

Students measurably improve understanding of science content for their grade level

Educators can provide students with timely feedback and differentiate lessons based on increased awareness of their students' science skills and knowledge

Educators routinely address learner variability and increase differentiated practices and application in their classroom

Educators develop and implement engaging and effective science lessons that incorporate research based strategies to increase the rigor of scientific discourse and scientific explanations in the classroom

Administrators support educator professional growth and prioritize increasing students' science outcomes across their school or district

Administrators direct and allocate resources and supports for science instruction for educators and schools most in need

Long-term

Students are better able to make evidence-based decisions in their personal, professional, social, and civic lives

Students increase self-efficacy and ownership of learning about the value of scientific reasoning, evidence-based thinking, and investigation

Students demonstrate a growth mindset in terms of the skills and practices used to make sense of scientific ideas

Educators increase capability to meet the unique learning needs of all their students

Educators feel professionally supported and are more likely to coach others in science instruction

Educators deepen scientific understanding by designing and delivering student-centered, TEKS-aligned lessons

Administrators promote and foster a culture of research-based, TEKS-aligned science learning

Administrators support the development of a scientific growth mindset for students and teachers

Administrators increase their capability to meet the unique learning needs of all students in their school or district

---

[1] The Educator Supports Channel is an online platform that provides school and district leaders with resources on how to share best practices for Discovery Education products/services and empower educators through professional learning
[2] Discovery Educator Network (DEN) is a global online community that connects educators to teaching resources, learning opportunities, and professional peer networking.
[3] Professional learning communities (PLCs) are an approach to school improvement where groups of educators and administrators work collaboratively at the school level to improve student outcomes.

LEARN PLATFORM BY INSTRUCTURE

Figure 1. *Science Techbook for Texas* Logic Model